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REMARKS

Claim 31 is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for the reasons noted in the official action. The rejected claims are accordingly amended, by the above claim amendments, and the presently pending claims are now believed to particularly point out and distinctly claim the subject matter regarded as the invention, thereby overcoming all of the raised § 112, second paragraph, rejections. The entered claim amendments are directed solely at overcoming the raised indefiniteness rejection(s) and are not directed at distinguishing the present invention from the art of record in this case.

Next, claims 31-40 and 46-50 are rejected, under 35 U.S.C. § 103, as being unpatentable over Keck '089 in view of Haefflinger '121. The Applicant acknowledges and respectfully traverses the raised obviousness rejection in view of the above amendments and the following remarks.

Keck '089 relates to interlacing equipment for interweaving layers of a stack of bricks with a thermoplastic film material. FIGS. 1-5 show only a side view of this equipment. These views show a frame including upright supports 5, 6 rigidly securing a cross-beam 7. This frame is fixed to the floor. A cradle 8, with wheels, carries a drum 17 of a plastic sheeting 18 back and forth across the length of the cross-beam 7. The cradle 8 is pulled in either direction across the cross-beam 7 by a one of two cables 9, 10, which are attached to the cradle 8 on opposite sides. One of a pair of drive mechanisms 11-16, which are placed at opposite ends of the cross beam 7, winds up a first of the cables 9, 10 while the other of two drive mechanisms 11-16 releases tension on the second of the cables 9, 10 thus allowing the second cable to unwind, facilitating motion of the cradle 8 back and forth along the cross-beam 7.

To interweave the different layers 31, 31a of bricks, after each layer of bricks is placed on the stack 34, the cradle 8 is pulled to the opposite side of the cross-beam 7. In the process the plastic sheeting 18 is held fast underneath the previous layer of bricks, such that as the cradle 8 moves to the opposite side of the cross-beam 7, the plastic sheeting 18 unrolls from the drum 17 and lays atop the previous layer of bricks. This process is then repeated until the stack 34 of bricks is complete and ready for transport.

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Although a gantry can be defined as a support for a barrel lying on its side, in the present instance the gantry is a mount for a traveling crane consisting of a large archlike or bridgelike frame designed to move along a set of tracks. Independent claim 31, of the application in part, comprises an interlacing gantry 11, including upright posts 11a, a cross-beam 11b, connecting these posts 11a, and at least one guide 20, and is rejected, in part, with the Examiner equating the Applicant's interlacing gantry 11 to Keck's '089 cradle 8, being both a "chassis" and "a cross-beam", and rollers, being a "guide". The Examiner further rejects claim 31 by equating the claimed base structure 19 and guide 19, which extend perpendicular to the cross-beam 11b, to Keck's '089 cross-beam 7, being the "base structure guide section", and states that this "base structure guide section 7 [is] perpendicular to a cross-beam [7]".

To complete the rejection, Haefflinger '121 is combined with Keck's '089. The Abstract and FIGS. of Haefflinger '121 teach a machine for palletizing elongated cylindrical products. This machine 1 includes, as shown in FIG. 6, two support frames 3 having tops that communicate through a cross-beam 5. This cross-beam 5 retains first and second sets of vacuum gripping means 20, 40. The first set of vacuum gripping means 20 are only used to grip one or more of the elongate cylindrical products 2, while the second set of vacuum gripping means 40 are only used for gripping a reel 22 of interlacing material 22'. As can be seen in FIG. 2, which is the only side view, the cross-beam 5 is supported by an additional beam 14 along which it is, although not shown in any of the Figures., presumably laterally slidable. This additional beam 14 is supported by upright posts 8 and is vertically slidable so as to be displaceable between an upper position and a lower position (FIG. 2 in dashed lines). This configuration of Haefflinger's '121 machine 1 enables the first set of vacuum gripping means 20 to be maneuvered to pick up the cylindrical products 2 from a supply table 6 and raise/lower them while laterally moving them to the correct lateral position for stacking on the transport pallet 7.

With the above described palletizing structure, Haefflinger '121 also teaches an interlacing device. This interlacing device is fixed to the floor and is integral with the palletizing machine. As taught in the Abstract, this interlacing device comprises at least a pair of vertical posts 26 arranged on either side of the transport pallet 7. Each of these vertical posts 26 has

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a support 21, which are designed to receive, hold and release a reel 22 of an interlacing material 22'. The reels 21 are picked up by the second set of vacuum gripping means 40 held by the cross-beam 5. Like the 2 dimensional movement of the first set of vacuum gripping means 20, via the cross-beam 5 and the additional beam 14, the second set of vacuum gripping means 40 are capable of 2 dimensional movement, thus facilitating interlacing of the cylindrical products 2 as described below.

To interlace the cylindrical products 2 on the transport pallet 7, the first set of vacuum gripping means 20 cyclically lifts and removes a one or more cylindrical products from the supply table 6 and arranges them in a layer upon interlacing material 22' on the transport pallet 7 (FIG. 3). After continuing this process a number of times and completing a full layer the second set of vacuum gripping means 40 grips the reels 22 of interlacing material 22' and transports them from a support 21 on a post 26 one side of the transport pallet 7 to a support 21 on a post 26 on an opposite side of the support pallet 7. During this process the interlacing material 22' is held fast underneath the preceding layer of cylindrical products 2, such that as the reels 22 are moved to the support 21 on the opposite post 26, the interlacing material 22' unrolls from the reel 22 and lays atop the preceding layer of cylindrical product 2. This process it then repeated until the stack of cylindrical products 2 is complete and ready for transport. It should be noted that, as stated above, the palletizing machine and the interlacing device are integral. That is both the palletizing machine and the interlacing device utilize the cross-beam 5 and the vacuum gripping means 20, 40 and it's 2 dimensional movement of to palletize and interlace the elongate product. The palletizing machine and the interlacing device are essentially one mechanical assembly.

The Applicant asserts that there are many significant differences between the application and applied combination of Keck '089 and Haefflinger '121, either alone or when combined with one another. In particular, the presently claimed invention recites the limitation of "at least two upright posts . . . having top ends . . . joined by a crossbeam . . . having a length greater than a length of the elongated products (2); and at least one interlacing guide (20, 20') supported by the cross-beam, for dispensing the interlacing material (12') from at least one spool (12); at least two fixed guide base sections (19') extend substantially perpendicular to the cross-beam,

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the bottom ends of the at least two upright posts slidably engage the at least two fixed guide base sections (19') for facilitating movement of the at least one interlacing gantry (11, 11') substantially normal to the cross-beam, and a drive mechanism which is connected to the interlacing gantry (11, 11') for displacing the interlacing gantry (11, 11') relative to the at least two fixed guide base sections (19'), between at least two alternate end positions such that the at least one interlacing guide (20, 20') is displaced in at least one interlacing plane (P) from one side to another side of the transport pallet (7), the at least one interlacing plane (P) being essentially perpendicular to the elongated products (2), when palletized, and the cross-beam".

Moreover, the arrangement of Keck '089 appears to operate without any significant problems and the teachings of Haefflinger '121, when combined with Keck '089 in the manner alleged, would appear to merely complicate the design of Keck '089. More importantly, there does not appear to be any apparent reason—other than hindsight after reading the specification of the above identified application — why one skilled in the art would attempt to combine the references as alleged. The resulting combination would render the arrangement of Keck '089 taller and make it more difficult "to integrate interlacing into a palletizing machine" as alleged.

Neither of the cited references of Keck '089 and Haefflinger '121, either alone or in combination teach the claim limitations of the cross-beam extending parallel to the elongate products when palletized, and movement of the interlacing gantry being substantially normal to the cross-beam, which is in part comprised of the cross-beam. Following the line of reasoning in the applied rejection, if the "cross-beam 8" of Keck '089 is said to extend parallel to the palletized elongate products, as the "interlacing gantry 8 (e.g. chassis)", which must comprise the "cross-beam 8", moves along "the gantry base structure guide section 7", the resulting movement of the "interlacing gantry 8 (e.g. chassis)" is in same direction that the "cross-beam 8" extends. That is to say that the "interlacing gantry 8 (e.g., chassis)" travels along the same axis as the extent of the elongate product. This is directly opposite to the limitations of the presently claimed invention. Even with the "uprights 3", as taught by Haefflinger '121, were combined with Keck's '089 "interlacing gantry 8 (e.g., chassis)", "cross-beam 8" and "gantry base structure guide section 7", the movement of the bottom ends of the "uprights 3", and therefore the

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"cross-beam 8" interconnected thereto, would still be along the same axis as the extend of the elongate product, again in direct opposition to limitations of the claims of the application.

Furthermore, Keck's '089 "gantry base structure guide sections 7" extend parallel to the "cross-beam 8", which results in the movement of the "interlacing gantry 8 (e.g., chassis)" as described above. This too is in direct opposition to the limitations of the claims which state that the two base guide sections 19' extend substantially perpendicular to the "cross-beam 8", which results in the movement as described above.

In relation to the above distinguishing limitations in the claims of the application, the at least one interlacing guide 20, 20' is supported by the cross-beam such that as the interlacing gantry 11, 11' is displaced along the guide base sections 19' the at least one interlacing guide 20, 20' is displaced in an interlacing plane P. Further, the interlacing plane P is essentially perpendicular to the elongate products and the cross-beam. This limitation is in direct opposition to the teachings of Keck '089 and Haefflinger '121, either alone or in combination. As similarly discussed above, the "rollers comprising [the] guide" taught in Keck '089 are supported by the "cross-beam 8" with the result being that the guide is displaced in the same manner as the movement of the "cross-beam 8". A plane in which the guides are displaced is parallel to the elongated products and the "cross-beam 8". Again, this is in direct opposition to the limitations of the claims of the application.

In further distinction from the cited references the interlacing gantry 11, 11' of the application is claimed to be displaceable between two positions. As can be seen in the Figures of the references, the interlacing device, specifically the frame 5, 6, 7, of Keck '089 and the interlacing device, including the supports 21, base 24 and the posts 26 of Haefflinger '121 are fixed to the floor. In Keck '089 interlacing is accomplished by transferring the drum 17 of interlacing material 26 back and forth across the gantry frame 5, 6, 7. Haefflinger '121 interlaces the product by transferring merely the reel 22 housing the interlacing material 22' back and forth from one fixed post 26 to another. In both cases, the interlacing gantry is in a fixed stationary position.

Furthermore, as limited in the claims, the cross-beam of the interlacing gantry has a greater length than the length of the elongated cylindrical products 2 and the at least one

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interlacing gantry 11, 11' has dimensions that permit the interlacing device 10, 10' to be located within the palletizing gantry 3 of the palletizing machine 1 below the gripping girder 5 and outside a length of the cross beam is greater than a length of the transport pallet 7 and the palletized products 2 and smaller than a length of the gripping girder 5. With respect to Keck '089, the interlacing gantry 5, 6, 7 may have a cross-beam 7 with a greater length than the product to be palletized, however the rigid structure of this gantry 5, 6, 7 would prohibit a palletizing gantry, being larger than the interlacing gantry 5, 6, 7 to place any product on a pallet within the interlacing gantry 5, 6, 7. Next, Haefflinger '121 may arguably show a type of both an interlacing gantry and a palletizing gantry, however they are integral with each other in distinction from the claims of the application. With regard to the concerned limitations, the interlacing gantry 21, 24, 26 of Haefflinger '121 has a length shorter than the elongate products.

In order to emphasize the above noted distinctions between the presently claimed invention and the applied art, the independent claims of this application now recite the features of "An interlacing device (10, 10') . . . comprising: at least one interlacing gantry (11, 11') comprising: at least two upright posts having top ends and bottom ends, the top ends of the at least two upright posts are joined by a cross-beam, which extends generally parallel to at least a portion of a length of the elongated products (2) when the elongated products (2) are being palletized, and the cross beam having a length greater than a length of the elongated products (2) and at least one interlacing guide (20, 20'), carried by the cross-beam, for dispensing the interlacing material (12') from at least one spool (12); wherein at least two fixed guide base sections (19') extend parallel to one another and substantially perpendicular to the cross-beam, the bottom ends of the at least two upright posts engage one of the at least two fixed guide base sections (19') for facilitating movement of the at least one interlacing gantry (11, 11') along the at least two fixed guide base sections (19'); and a drive mechanism, operated independently of the operation of the palletizing machine (1) which palletizes the elongated products (2), is connected to the interlacing gantry (11, 11') for displacing the interlacing gantry (11, 11') relative to the at least two fixed guide base sections (19'), between at least two alternate end positions such that the at least one interlacing guide (20, 20') is displaced in at least one interlacing plane (P) from one side to another side of the transport

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pallet (7), the at least one interlacing plane (P) is essentially perpendicular to the elongated products (2), when palletized, and the cross-beam". Such features are believed to clearly and patentably distinguish the presently claimed invention from all of the art of record, including the applied art.

In view of the foregoing, it is respectfully submitted that the raised rejection(s) should be withdrawn and this application is now placed in a condition for allowance. Action to that end, in the form of an early Notice of Allowance, is courteously solicited by the Applicant at this time.

The Applicant respectfully requests that any outstanding objection(s) or requirement(s), as to the form of this application, be held in abeyance until allowable subject matter is indicated for this case.

In the event that there are any fee deficiencies or additional fees are payable, please charge the same or credit any overpayment to our Deposit Account (Account No. 04-0213).

Respectfully submitted,



Michael J. Bujold, Reg. No. 32,018
Customer No. 020210
Davis Bujold & Daniels, P.L.L.C.
112 Pleasant Street
Concord, NH 03301-2931
Telephone 603-226-7490
Facsimile 603-226-7499
E-mail: patent@davisandbujold.com

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